

Notice of Allowability

Application No.

10/022,856

Examiner

Qutub Ghulamali

Applicant(s)

FECTEAU ET AL.

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/20/2001.
2. ☒ The allowed claim(s) is/are 1-44.
3. ☒ The drawings filed on 20 December 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 5/30/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This Office Action is in response to application filed 12/20/2001

Allowable Subject Matter

2. Claims 1-44 allowed.

3. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 8, 14, 19, 25, 32 and 38, the prior art (Nomura, USP 6,128,347), discloses a signal transmission circuit with protection line driven signal to mitigate crosstalk among signals transmitting corresponding first and second sets of signals over in transmission lines. Nomura, however, in combination with other claimed limitations fail to render obvious the data transmission method comprising:

receiving a first set of input signals and a second set of input signals, each input signal having a series of state transitions synchronized to a data clock signal having a period T_{CLK} ;

transmitting corresponding first and second sets of output signals such that each output signal (1) corresponds to an input signal of the corresponding set, (2) passes along a corresponding one of a corresponding set of a plurality of conductive paths, and (3) has a series of state transitions corresponding to the series of state transitions of the corresponding input signal;

transmitting each among a third set of output signals on a corresponding one of a third set of the plurality of conductive paths; and

transmitting each among a fourth set of output signals on a corresponding one of a fourth set of the plurality of conductive paths, wherein adjacent conductive paths of the first set are separated

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by at least one conductive path of the third set, and wherein adjacent conductive paths of the second set are separated by at least one conductive path of the fourth set, and wherein a time between a state transition on an input signal of the first set and the corresponding state transition on the corresponding output signal exceeds a time between a state transition on an input signal of the second set and the corresponding state transition on the corresponding output signal by a delay period T_{DLY} , and wherein the period T_{CLK} is greater than the delay period T_{DLY} , and wherein a first of two ends of each one among the plurality of conductive paths is closer to the first end of an adjacent conductive path than to the second end of the adjacent conductive path, and wherein said transmitting each among the first and second sets of signals includes applying the signal to the first end of the corresponding conductive path, and wherein said transmitting each among the third and fourth sets of signals includes applying the signal to the second end of the corresponding conductive path.

Such limitations, as recited with variations, to claims 1, 8, 14, 19, 25, 32 and 38, is neither anticipated nor rendered obvious by the prior art.

4. Claims 2-7, 9-13, 15-18, 20-24, 26-31, 33-37 and 39-44 are allowed by virtue of their dependency to claims highlighted above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Malerevich et al (USP 6611538) discloses a data transmission synchronization system with feedback.

Schipper et al (USP 6128337) shows multipath signal discrimination by use of a bit pattern that cannot be included in a direct signal pattern.

Lincoln (US Pub. 2005/0069041) discloses a coherent expandable high speed interface for transmitting continuous parallel data streams.

Publications:

Masayuki Mizuno et al, "Clock Distribution Network with On-Chip Transmission Lines", Proceedings of the IEEE 2000 International conference, 5-7 June 2000, Page(s) 3 - 5.

Mikazuki, T.; Matsui, N.; "Statistical design techniques for high-speed circuit boards with correlated structure distributions", Components, Hybrids, and Manufacturing Technology, IEEE Transactions on Components, Packaging, and Manufacturing Technology, Part A, B, C, Volume 14, Issue 3, Sept. 1991 Page(s) 512 – 517.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

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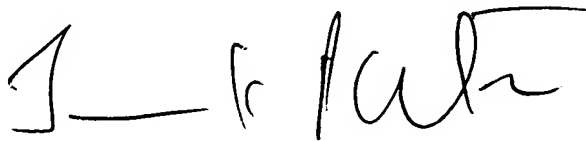
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QG.

August 18, 2005.



JAY K. PATEL
SUPERVISORY PATENT EXAMINER